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AUTHOR Landini, Albert J.
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ABSTRACT

This index of effort is proposed as a means by which those in charge of student recruitment activities at community colleges can be sure that their efforts are being directed toward all of the appropriate population. The index is an analytical model based on the concept of socio-economic profiles, using small area 1970 census data, and is the primary means for evaluating recruitment efforts. The six steps for implementing the model are: (1) determine high school seniors' educational aspirations and home addresses; (2) assign appropriate census tract or census block numbers to the high school students' records; (3) add 1970 census data to the student file; (4) analyze data to determine items acting as predictors of educational aspiration; (5) assign educational aspiration scores to all census tracts or blocks in the study area; and (6) validate the model using random testing procedures. The methodology associated with this model and the use of computer mapping as a means of presenting the results to a decision maker are discussed. (AL)

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INDEX OF EFFORT

An Analytical Model for Evaluating and Re-Directing Student Recruitment Activities for a Local Community College

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by

Albert J. Landini

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CLEARINGHOUSE FOR
JUNIOR COLLEGE
INFORMATION

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INDEX OF EFFORT

An Analytical Model for Evaluating and Re-Directing Student Recruitment Activities for a Local Community College

I. INTRODUCTION

Conversations with faculty and staff interested in junior college institutional research has revealed a growing awareness of geographic based information systems and how they may be used for a wide range of information processing tasks to aid the educational decision maker. This paper deals with one of these tasks; the building of an index of effort for evaluating and re-directing student recruitment activities.

Investigation of junior college planning procedures indicates that they are used only within the narrow confines imposed by the school's institutional requirements, and those of the physically present student body. Although lip service is paid to community responsiveness, little in the way of documentation has been produced substantiating the fact that junior, or community colleges do understand the socio-economic make-up of all residents in their district, even those outside their client group, and respond to those peoples' academic needs and human and social wants. The system behind the index of effort described here can produce those kinds of socio-economic information enabling the appropriate response to the community, if pushed to its ultimate development.

Quick response to identified community needs and to citizens within their representative geographical areas hinges on organizational flexibility and is a management problem. However, the spatial differentiation and identification of selected demographic as well as socio-economic data along

with already implemented or proposed instructional programs will allow the concerned decision maker to act in his role quickly.

Thus, in exploring one possible use of this system we will consider the observed behavior of graduating high school seniors and other potential community college students as different people in different socio-economic situations reflecting varying degrees of propensity to attend a local two-year institution. This may be due to a number of reasons such as; plans to attend elsewhere, fear of the institution, no knowledge of its existence, and a general feeling that it has, and in fact may not have anything to offer them.

Focus of the proposal: To limit the scope of the discussion to the operations of the index of effort, we will consider only graduating high school seniors. Four classifications of graduating seniors have been delimited and are described as: (1) students completing high schoool who plan to attend a university, (2) students completing high school who plan to attend a four-year state college, (3) students completing high school who will attend the local junior college or other two-year schools and, (4) students who plan to terminate their education upon completion of high school. The construction of such a classification scheme for high school seniors seems valid, and the means for collecting such data would not seem an undue burden for high school staff, in fact if it is not already collected as part of their curriculum planning efforts. With such information, college staff will be able to direct recruitment efforts to appropriate students and/or sections of the community as identified by the index.

Purpose of the system: The open door is a working concept for community colleges and is generally implied to mean that the school will accept all students wishing to enter its confines and enroll in its programs. However, one does not have to be associated for a long length of time with community college educators to realize that the open door is operationally defined as all students not going to a four-year academic institution, should attend the local community college. This paper does not quarrel with that premise, but instead only seeks to identify it so as to specify a meaningful purpose to the proposed index of effort system.

Once captured, however, the role of the community college student is less clearly defined. The college seems unsure as to what their role should be regarding the student. A plethora of terms confronts the concerned; vocational-technical, transfer-terminal, paraprofessional-occupational. One thing seems to be sure, that educators desire to help students to be prepared for the outside world and to guide them on a path which will lead them to a discovery of the good-life.

A major portion of this difficulty regarding the college's proper response to students appears to be inadequate knowledge on the part of the college staff as to who and what their client group is. One solution would be to provide college staff with current data regarding the nature and characteristics of those persons residing within the college's service area. With such data college staff could more appropriately relate to community needs and so direct their recruitment activities.

A means of identifying what students will come and should come to the junior college, will be the construction of valid socio-economic and demographic profiles relative to the graduating high school senior classification scheme mentioned earlier. The construction of such profiles would be based on secondary data sources gathered from cooperating government agencies. The purpose of this study will be to illustrate how to construct such profiles using the extreme small area census data associated with the 1970 Census of Population and Housing.

The problem: The problem toward which this proposal is directed is that certain socio-economic or cultural (in the broad sense of the term) groups, as defined by their post-education high school plans will exhibit marked similarities in socio profiles constructed from 1970 Census data and will exhibit consistent grouping as to their places of residence.

Research question: A primary research question surrounding the construction of this recruitment index of effort may be stated thus: What relationship(s) exist between groups of graduating high school seniors with different post high school education plans and 1970 Census block data as reflected by certain census data items (variables).

The theory: To explain the post-high school educational plans classification of observed graduating seniors, it is anticipated that certain characteristics and actions woven into a complex pattern of life situations must be evaluated. Such evaluation schemes do exist using expensive and complicated testing instruments to identify potentially successful incoming community college students as individuals. However, other information about what community college students or high school graduates are as groups may be of more value to a recruiter/administrator than personality inventory data.

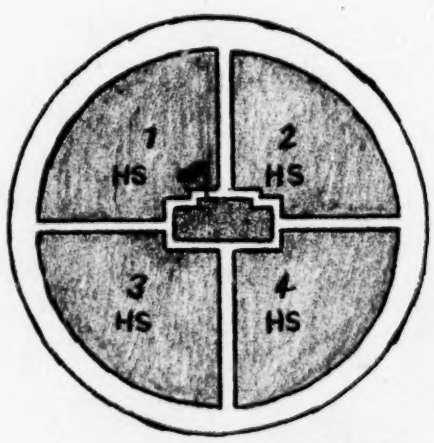
The theory presented here is that students with similar socio-economic characteristics and demographic characteristics when considered together as a type of social profile live in close prosimity to each other and share like plans as to their education following high school. Knowledge of high school student addresses can be used in conjunction with profiles built for the census block in which their residence is located to verify this. Profiles would be constructed to key the concerned investigator to such things as likely post high school education plans; and later could be expanded to give some indication as to chances for success if enrolled in the community college as well as activities in the neighborhood that could be used to make education more relevant to the student. This is not to say that present recruitment activities reflect cultural bias, but rather that specific culture groups have pre-ordained attitudes toward higher education of any type because of their perception as conditioned by their societal role.

Figure 1 illustrates this theory of unique geographical distribution of students with varying post high school education plans, diagrammetrically.

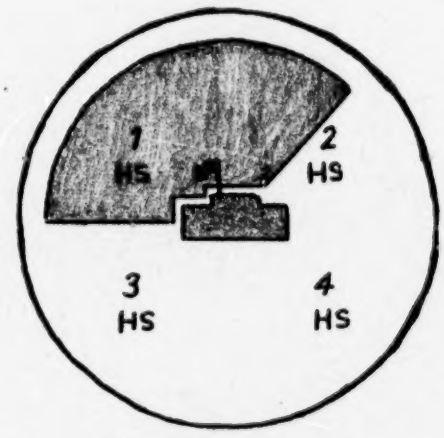
<u>The variables.</u> Initially it will be necessary to collect from all high schools within the subject community college district, information as to house address of each of their graduating seniors and their plans, regarding further education. Thus, the main variable used to separate groups will be their assignment to a position in the classifications scheme derived to differentiate between the possible alternatives for educational plans following high school. It is anticipated that these various classes will demonstrate cultural homogeneity as reflected in 1970 Census block data

DISTRIBUTION OF STUDENTS
POST HIGH SCHOOL ACADEMIC PLANS

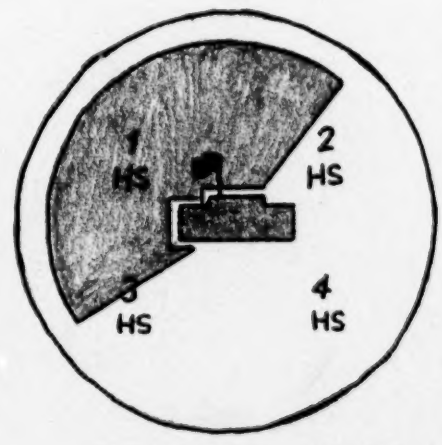
Figure 1



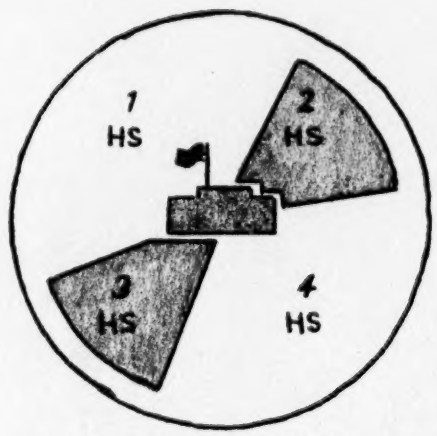
Community College and High School District



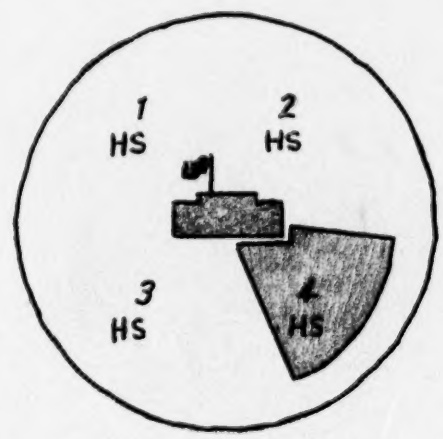
University Transfer



State College Transfer



Community College Transfer



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associated with their home address, and a tendency for the addresses in each class to come from similar sections of the city.

Within an ex post facto framework, this variable of post high school classification may be viewed as dependent upon other variables selected by the researcher from 1970 census data. However, as will become evident to the researcher involved with this project as it progresses through the implemention stage, the patterns of exploring relationships and differences leave this aspect in a relatively open interpretative posture.

Research hypotheses. It is believed that upon examining the consistency of socio-economic and demographic characteristics associated with the census block in which a student's home address is located, that it will be found that his post-high school educational plan classification will be reflected in a number of ways by a number of variables.

II. METHODOLOGY AND DESIGN

Research projects such as these are an ex post facto study of differences between groups and relationships between variables in the analytical and validation stages. These may be viewed as falling into the applied research area, although certain facets approach pure or basic inquiry.

The technical tools, systems, and applications. Geo-coding is perhaps the greatest single power in the system appurtenant to the index of effort. It is based on a reference file that allows us to intermingle place or geographic codes on data files. The importance of this is that data collected at one level, like individual house address, can be related to data

collected on another level, like census block or census tract.

With this power we can aggregate data upwards by geographic units. Individual house addressed records can be summed to produce census block totals. Such bigger area sums can be gathered for any number of areas using the basic individual records.

Another feature is that the reference file can be used to give the areal size for any of the desired geographic collections units. Using this, proportional disaggregation of data can be accomplished from larger areas to smaller ones, with some resultant loss in accuracy.

The power to do these things is in the combination of two 1970 Census tools; DIME Geographic Base Files and ADMATCH, an address matching program. DIME is a standardized reference file created for all urban areas as part of the Census program. It has coordinates for every street intersection and house number range and street names for every block. ADMATCH is a computer program that allows us to assign census codes like census block number to data files, as long as the data file has the individual house number attached to each individual record.

The sample and procedure. The analytical phase of this study will concern itself only with those students upon which will be gathered the information as to their home address and intended post high school education plans. At maximum this should involve all graduating seniors from all high schools within the community college district; a minimum effort would involve as large as possible random sample equal in proportion to student body from each of the high schools.

Step 1. Determine the educational aspiration and/or plans of selected participants from each of the high schools in the community college district. This is the major manual effort in the project and considerable effort should be made to insure clean data. These forms will then be keypunched and a magnetic tape produced with the student's name or preferably his I.D. number, self stated plans for education beyond high school,and home address.

Step 2. Here the appropriate census block number associated with the student's house address and school district must be added to our data file. To accomplish this, we use two 1970 Census tools: (1) ADMATCH, an address matching computer program that will use a (2) DIME File or equivalent street reference file to assign appropriate census block numbers to our data file.

Step 3. We now have a data file that has (1) student I.D., (2) educational plans classification, (3) house address, and (4) appropriate census block number. To this file is added census data relating best to the individual's stated post high school educational plans. As census blocks are different size and with different population numbers, it is necessary to convert interval census data to ratio equivalents before adding to the data file. Since the census data are on magnetic tape also, a two step program is used to read the census data, covert them to ratio equivalents and write them on the data tape.

Step 4. Following a sort on educational goals, the researcher has groups that are known, about which he has collected certain socio-economic data that will lead to the construction of valid social profiles to be used in predicting future students' educational goals following high school corresponding to their census block of residence. Since the group status is

is known but its relationship to the variables is not, discriminate analysis is an appropriate test for existing correlations between group status and the independent variables. Should such correlationships fail to materialize at this point, additional research will be necessary to define more appropriate variables. However, if as anticipated, strong and significant correlations do exist between these variables and group status, the next step can be undertaken.

Step. 5. This is largely a job of data manipulation and classification. It consists of analyzing all census blocks in a given area in light of the social profile analysis and correlation with post-high school educational goals classification. Thus, the problem now is not that of classifying individuals as to their future educational goals, but rather the census block in which they live. Hence, individual graduating seniors need not be queried as to their post-high school education plans, but rather their address be looked up manually or electronically in a cross referenced educational goal street guide. Factor analysis can be used to assign a post-secondary education goal to students not participating in the original exercise.

Step 6. A validation step is required. If a student or students have been classified as to their educational objective after high school as described in Step 5, it should hold true that they would be similarly classified if they were asked their plans or their actions observed the fall term after graduation. Such a test or observation of a total community college district involving many high schools and thousands of students can be conducted relatively inexpensively using random sampling techniques.

Illustrative scenario. A main attribute of the system backing up this proposed index of effort is construction and use of computer drawn maps. Maps are ideal for making rapid diagnoses of problems involving spatial differences in social systems. They are also ideal devices for portraying summarized information to the decision maker.

In the project proposed here, four sets of maps are required. They would basically be point symbol maps indicating the location or residence of high school students in various educational goal classification groups. All data could be placed on one map, but four separate maps may have greater visual impact. The maps are: (1) all high school graduates going to a university, (2) all high school graduates going to a four-year college, (3) all high school graduates going to a junior college, and all high school graduates not going anywhere.

Looking at these maps it is likely that dissimilar patterns would be evident on each map. What area needs the most emphasis in recruiting junior college students? What are the socio-economic and demographic characteristics associated with each of these groupings? Are your curricula relevant to the people in the area having the least amount of students going anywhere after high school?

At this point the community college decision maker has a well defined idea of where his school's students come from in the community, where those live who don't need the services of his institution, and where those live who may feel that society doesn't need them. He now has a real basis for directing recruiting teams, evaluating appropriateness of curriculum and locating off campus facilities.

III. CONCLUSIONS

What has been presented here is an analytical model for evaluating the recruitment activities for a local community college. In educational planning, spiraling costs and decreasing revenues are a major concern and it is no longer good enough to depend on that individual gut reaction to how good a job a school is doing for the entire community. Many citizens with less than a good life are destined for termination of education after high school and the junior college offers them through its open-door policy an opportunity to develop an alternative life style.

A universal classification scheme based on cultural variables for which data are available, if valid, would provide a means for identifying areas where intensive junior or community college recruitment is needed. This would hopefully provide a means of salvaging a great deal of wasted human resources represented in the high numbers of potential students who do not walk through that "open-door" by actively recruiting them and offering them meaningful educational programs.

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